

WHAT IS CLAIMED IS:

1. An optical disc having a data format in which a user data and a control information in a logical sector are disposed in block, and an ID information in a physical sector is disposed in the other block, and they are coded for error correction.
2. An optical disc having a data format in which a user data, a control information in a logical sector and an ID information in a physical sector are disposed each in one block, and they are coded for error correction.
3. An optical disc having a data format in which a user data is disposed in one block, and a control information in a logical sector and an ID information in a physical sector are disposed in the other block, and they are coded for error correction.
4. The optical disc as set forth in any of Claims 1 to 3, having each of the data formats in which an error-correcting code whose code distance is long (LDC) in one direction and the user data is arranged in the same direction as the error-correcting code.
5. A method of write to an optical disc in a data format in which a user data, a control information in a logical sector, and an ID information in a physical sector are disposed each in one block, and they are coded for error correction, or in which a user data is disposed in one block, and a control information in a logical sector and an ID information in a physical sector are disposed in the other block, and they

are coded for error correction, the method the steps of:

combining a control information from an application program with other control information (inherent control information including a drive ID, disc ID, etc.) or converting the information in an optical disc drive; and

encrypting or scrambling the user data with the control information thus combined or converted.

6. A method of write to an optical disc in a data format in which a user data, a control information in a logical sector, and an ID information in a physical sector are disposed each in one block, and they are coded for error correction, or in which a user data is disposed in one block, and a control information in a logical sector and an ID information in a physical sector are disposed in the other block, and they are coded for error correction, the method the steps of:

combining a control information from an application program with other control information (inherent control information including a drive ID, disc ID, etc.) or converting the information in an optical disc drive; and

writing to the optical disc the information thus combined or converted as a block of control information.

7. A method of reading data from an optical disc having a data format in which a user data, a control information in a logical sector, and an ID information in a physical sector are disposed each in one block, and they are coded for error correction, or in which a user data is disposed in one block, and a control

information in a logical sector and an ID information in a physical sector are disposed in the other block, and they are coded for error correction, the method comprising, according to the present invention, the steps of:

decrypting or descrambling the intra-block control information corresponding to the control information in the data format in the block while sending in any other format the intra-block control information corresponding to the control information in the data format to the application program.

Add
a "